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PATENT
P55248

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

KWANG-YOUN PARK *et al.*

Serial No.:	09/100,952	Examiner:	CHIEU, PO LIN
Filed:	22 June 1998	Art Unit:	2615

For: METHOD AND APPARATUS FOR RESERVE-RECORDING A VIEWING BROADCAST PROGRAM

TRANSMITTAL OF TRANSLATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Sir:

In support of the remarks set forth in Applicant's Amendment filed on 8 October 2004, accompanying this transmittal is an English language translation of Korean Patent Application No. 1997-026306 filed in Korean Intellectual Property Office on 20 June 1997 and Declaration duly executed by the translator of the aforesaid Korean patent application.

Respectfully submitted,

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Date: 10/12/04
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DECLARATION

I, Mi-ran SEO, residing at RM. 1405, Hyechun Bldg., #831 Yuksam-dong, Gangnam-gu, Seoul, 135-080, Korea, do hereby certify that I am conversant with the English and Korean languages and a competent translator thereof, and that to the best of my knowledge and belief the following is a true and correct English translation of Korean patent application no. 1997-026306.

signed this 7th day of October, 2004

Translator's Typed Name : Mi-ran SEO

KOREAN INTELLECTUAL

PROPERTY OFFICE

This is to certify that the following application annexed hereto is a true copy from the original records of the Korean Intellectual Property Office.

Application Number : Korean Patent Application No. 1997-26306

Date of Application : June 20, 1997

Applicant : Samsung Electronics. Co., Ltd.

March 27, 1998

COMMISSIONER

【ABSTRACT OF THE DISCLOSURE】

Disclosed is a viewing broadcast program reserve-recording method and apparatus for reserve-recording a broadcast program, maintaining a current viewing broadcast picture just as it is. The present invention comprises a first storage unit for pre-storing KBPS data contained in a broadcast signal of each broadcast station; a key input unit for applying a key input signal for reserve-recording a viewing broadcast program; a controller for maintaining a current broadcast picture just as it is when receiving the key input signal from the key input unit, reading KBPS data corresponding to the broadcast program from the first storage unit, and setting reserve-recording information with the read information; and a second storage unit for storing reserve-recording information set by the controller. Accordingly, the present invention can reserve-record a subsequent broadcasting part of a broadcast program by once manipulating a key while a user views the broadcast program, thereby providing convenience to a user.

【Figure】 Figure 1

【SPECIFICATION】

【Title of the Invention】

METHOD AND APPARATUS FOR RESERVE-RECORDING
A VIEWING BROADCAST PROGRAM

【Brief Description of the Drawings】

Fig. 1 is a block diagram showing a reserve-record apparatus of a broadcast program during user's watching according to the present invention; and

Fig. 2 is a flowchart diagram for illustrating the operation of the apparatus shown in Fig. 1.

※ Description Concerning Reference Numerals of the Drawings

11 : Key input unit　　12 : Controller

13, 14 : Storage unit

【Detailed Description of the Invention】

【Object of the Invention】

【Technical Field of the Invention and Background Art】

The present invention relates to a method and apparatus for reserve-recording a broadcast program, and more particularly, to a method and apparatus for reserve-recording a viewing broadcast program so that while a user views a broadcast program, a subsequent broadcasting part of the broadcast program is reserve-recorded.

Generally, when a reserve-recording function of a broadcast program is executed by using a video cassette recorder (VCR) or television incorporated with a VCR (TVCR), a user sets reserve-recording data such as a recording start time and end time, the channel of a desired broadcast program, types of reserve-recording, for example, once-recording, daily recording, every week recording, etc., and then press a reserve-recording button. Such a

reserve-recording function causes inconvenience to a user to manipulate a number of times of keys and possibility of mal-operation. Accordingly, a method for easily performing reserve-recording has been required. G code method is now widely used as a simplified reserve-recording method. G code is expressed with the Arabic numerals up to 8-digit at maximum. The G code reserve-recording method uses special codes of programs listed on a newspaper. When a user notes down special codes of programs listed on a newspaper and enters the numerals of a G code corresponding to the selected program into a VCR, the VCR analyzes the numerals and provides information containing a corresponding channel, reserve-recording start time and reserve-recording end time of a desired program. Thus, reserve-recording can be executed by inputting only numerals, without requiring that a user sets information necessary for reserve-recording by manipulating a number of times of keys, However, in this case, a newspaper or program guide should be referred. Recently, there has been proposed a Korean broadcast program system (KBPS). In case of reserve-recording by the KBPS, the VCR extracts KBPS data contained in a received broadcast signal, pre-stores the extracted data, displays the stored KBPS data on a TV screen, and makes a user select a desired broadcast program. A basic picture viewed with the KBPS data contains a current time, name of corresponding broadcast station, title of a broadcast program to be broadcasted according to a broadcast schedule. The VCR changes a channel automatically according to the KBPS data on a broadcast program selected by the user at the time when the program is broadcasted, thereby allowing a desired broadcast program to be reserve-recorded.

【Technical Problem-Solution by the Invention】

However, there causes inconvenience to a user to manipulate keys once or more, in a conventional simplified reserve-recording technique. Also, when reserve-recording a subsequent broadcasting part of the broadcast program which a user currently views, the convectional technique converts a current viewing broadcast picture into a reserve mode picture, or into a basic picture of the KBPS data. A basic picture viewed with the KBPS

data contains a current time, name of corresponding broadcast station, title of a broadcast program to be broadcasted according to a broadcast schedule.

To solve the above problem, it is an object of the present invention to provide a broadcast program reserve-recording method which can reserve-record a subsequent broadcasting part of a broadcast program by once manipulating a key while a user views the broadcast program.

Another object of the present invention is to provide a broadcast program reserve-recording apparatus which can embody the broadcast program reserve-recording method.

【Constitution and Function of the Invention】

To accomplish the above object of the present invention, there is provided a method for reserve-recording a viewing broadcast program, the method comprising the steps of:

(a) pre-storing KBPS data contained in broadcast programs of broadcast stations;

(b) applying a key input signal for reserve-recording a viewing broadcast program;

(c) maintaining to view the broadcast program selected in said step (b) and reading program identification information, such as program ID, a recording start time and end time, and the channel of a desired broadcast program, corresponding to the current viewing broadcast program among the KBPS data stored in said step (a); and

(d) setting reserve-recording data with the program identification information read in said step (c).

To accomplish another object of the present invention, there is provided a viewing broadcast program reserve-recording apparatus, comprising:

a first storage unit for pre-storing KBPS data contained in a broadcast signal of each broadcast station; a key input unit for applying a key input signal for reserve-recording a viewing broadcast program; a controller for maintaining a current broadcast picture just as it is when receiving the key input signal from the key input unit, reading the KBPS data corresponding to the broadcast program from the first storage unit, and setting

reserve-recording information with the read information; and a second storage unit for storing reserve-recording information set by the controller.

A preferred embodiment of the present invention will be described in detail with reference to the accompanying drawings.

Fig. 1 is a block diagram showing a reserve-record apparatus of a broadcast program during user's viewing according to the present invention, in which a Korean broadcast program system (KBPS) is shown as an example. The apparatus of Fig. 1 comprises a key input unit 11 for applying a key input signal to reserve-record a broadcast program during user's viewing, and a first storage unit 13 for extracting KBPS data contained in a broadcast signal of each broadcast station and pre-storing the extracted data. The apparatus of Fig. 1 further comprises a controller 12 for reading the KBPS data corresponding to a viewing broadcast program among the KBPS data, such as program ID, a recording start time and end time, and the channel of a desired broadcast program, stored in the first storage unit 13 according to the key input signal input from the key input unit 11, and setting reserve-recording data with the read KBPS data, and a second storage unit 14 for storing the set reserve-recording data. The operation of the apparatus of Fig. 1 having such construction will be described with reference to Fig. 2.

When a VCR or TVCR is turned on under the condition that a normal broadcast signal is applied, a tuner (not shown) receives a broadcast signal introduced via an antenna and selects the broadcast signal transmitted from each broadcast station according to channels. The first storage unit 13 extracts the KBPS data on a broadcast title, broadcast date, start time, end time and name of each broadcast station concerning programs to be broadcasted, and stores the extracted data, wherein the broadcast programs are contained in the broadcast signal of a selected channel.

Meanwhile, if a user inputs a key signal for reserve-recording via the key input unit 11 during watching the broadcast program (step 201), the controller 12 receives the input key signal, recognizes the current viewing broadcast program as a broadcast program to be reserve-recorded, and reads reserve-recording data corresponding thereto from the first

storage unit 13 (step 202). At this time, the controller 12 maintains a current viewing broadcast picture so that the broadcast program under user's viewing is not interrupted. In step 202, the controller 12 reads the KBPS data corresponding to the viewing broadcast program among the KBPS data pre-stored in the first storage unit 13. The read KBPS data contains a title, date, time and channel number of a program to be broadcasted. The controller 12 sets reserve-recording data using the same date, time and channel number as a broadcast date, time and channel number concerning the broadcast program included in the KBPS data read from the first storage unit 13 (step 203). The controller 12 stores the set reserve-recording data in the second storage unit 14. When the reserve-recording is set, the controller 12 makes a recording operation performed according to the reserve-recording data stored in the second storage unit 14 under the stand-by status.

【Effect of the Invention】

As described above, a method and apparatus for reserve-recording a broadcast program during user's viewing according to the present invention, can check data on a broadcast date, time, channel numbers concerning the viewing broadcast program among program identification information of pre-stored VPS data or KBPS data, and automatically set reserve-recording. Therefore, the present invention provides an effect that the next continued portion of the current viewing broadcast program can be reserve-recorded, without interrupting the viewing of the current broadcast program.

【CLAIMS】

1. A method for reserve-recording a viewing broadcast program, the method comprising the steps of:

(a) pre-storing KBPS data contained in broadcast programs of broadcast stations;

(b) applying a key input signal for reserve-recording a viewing broadcast program;

(c) maintaining to view the broadcast program selected in said step (b) and reading program identification information, such as program ID, a recording start time and end time, and the channel of a desired broadcast program, corresponding to the current viewing broadcast program among the KBPS data stored in said step (a); and

(d) setting reserve-recording data with the program identification information read in said step (c).

2. A viewing broadcast program reserve-recording apparatus, comprising:

a first storage unit for pre-storing KBPS data contained in a broadcast signal of each broadcast station;

a key input unit for applying a key input signal for reserve-recording a viewing broadcast program;

a controller for maintaining a current broadcast picture just as it is when receiving the key input signal from the key input unit, reading the KBPS data corresponding to the broadcast program from the first storage unit, and setting reserve-recording information with the read information; and

a second storage unit for storing reserve-recording information set by the controller.

3. The viewing broadcast program reserve-recording apparatus according to claim 2, wherein said controller reads channel data, broadcast date and time contained in the program identification information corresponding to the current viewing broadcast program, from the KBPS data stored in the first storage unit.

FIG. 1

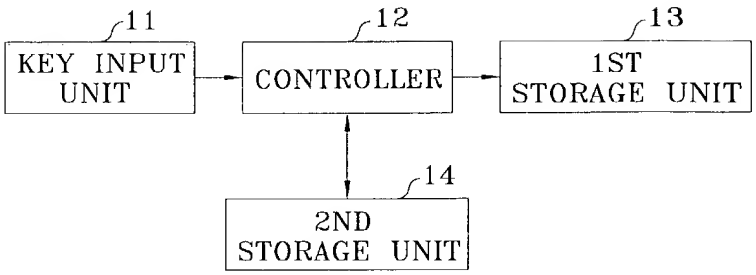

FIG. 2